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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/825,143

04/15/2004

Freeman Leigh Rawson III

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EXAMINER

CHERY, MARDOCHEE

ART UNIT

PAPER NUMBER

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/825,143	<b>Applicant(s)</b> RAWSON, FREEMAN LEIGH	
	<b>Examiner</b> MARDOCHEE CHERY	<b>Art Unit</b> 2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/06/04</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office action is a reply to applicants' preliminary amendment filed on March 28, 2008 in which claims 2-20 have been canceled, and claim 1 has been amended.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Particularly, claim 1 recites in line 7, "...said balloon code device driver requests said operating system to allocate memory to it..." However, the pronoun "it" referred to in the claim renders the claim indefinite because "it" can refer to a broad spectrum of things including for instance "the data processing system", "the operating system" recited in the claim.

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

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1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. copending Application No. 12/059,862. Although the conflicting claims are not identical, they are not patentably distinct from each other as shown below.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The following table is provided simply for illustrative purposes.

Instant Application: 10/825,143	Copending 12/059,862
<b>Claim 1.</b> A method of managing power in a data processing system, comprising:  monitoring a system parameter indicative of power consumption;   responsive to determining that the	<b>Claim 1.</b> A method of managing power in a data processing system, comprising:  monitoring a system parameter indicative of power consumption;   responsive to determining that the

<p>parameter differs from a specified threshold, causing a guest of the system to de-allocate a portion of system memory allocated by the guest</p> <p>by causing an operating system of the system to de-allocate said portion of system memory</p> <p>by invoking a balloon code device driver of said operating system to request memory, wherein said balloon code device driver requests said operating system to allocate memory to it; and</p>	<p>parameter differs from a specified threshold, causing a guest of the system to de-allocate a portion of system memory allocated by the guest</p> <p><b>Claim 4.</b> ...causing a guest to deallocate a portion of system memory comprises causing at least one operating system of the system to de-allocate a portion of system memory.</p> <p><b>Claim 5.</b> ...causing the operating system to de-allocate a portion of system memory includes invoking a balloon code device driver of the operating system to request memory.</p> <p><b>Claim 6.</b> ...the balloon code device driver</p>
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reclaiming by a hypervisor the portion of system memory requested by said balloon code device driver and, responsive thereto, reducing system memory power consumption.	requests the operating system to allocate memory to it and, thereafter, the system memory allocated to the balloon device driver is reclaimed by a hypervisor. <b>Claim 1 continued.</b> reclaiming the portion of system memory released by the guest driver and, responsive thereto, reducing system memory power consumption.
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6. Claims 1-6 of U.S. copending application 12/059,862 contain every element of claim 1 of the instant application and as such anticipates claim 1 of the instant application.

“A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or **anticipated by**, the earlier claim. In re Longi, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior art patents); In re Berg, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species within that genus). “ ELI LILLY AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the

Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jeddelloh (2004/0260957) in view of Waldspurger (Memory Resource Management in VMware ESX Server; VMware, Inc.; Palo Alto, CA).

As per claim 1, Jeddelloh discloses a method of managing power in a data processing system [par. 0024], comprising: monitoring a system parameter indicative of power consumption [par. 0029]; responsive to determining that the parameter differs from a specified threshold [par. 0029], reducing system memory power consumption [par. 0035].

However, Jeddelloh may not explicitly disclose causing a guest of the system to release de-allocate a portion of system memory allocated by the guest by causing an

operating system of the system to de-allocate said portion of system memory by invoking a balloon code device driver of said operating system to request memory, wherein said balloon code device driver requests said operating system to allocate memory to it; and reclaiming by a hypervisor the portion of system memory released by the guest requested by said balloon code device driver and, responsive thereto.

Waldspurger discloses causing a guest of the system to release de-allocate a portion of system memory allocated by the guest by causing an operating system of the system to de-allocate said portion of system memory by invoking a balloon code device driver of said operating system to request memory, wherein said balloon code device driver requests said operating system to allocate memory to it [Abstract; Section 3.2: Ballooning, paragraph 2; Figs. 1-2]; and reclaiming by a hypervisor the portion of system memory released by the guest requested by said balloon code device driver and, responsive thereto, reducing system memory power consumption [Section 3.2: Ballooning; paragraph 3; Section 1: Introduction, paragraph 3; Figs. 1-2] to achieve predictable performances such as having a VM from which memory has been reclaimed to perform as if it had been configured with less memory (Section 3.2: Ballooning; paragraph 1).

Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to modify the system of Jeddloh to include causing a guest of the system to release de-allocate a portion of system memory allocated by the guest by causing an operating system of the system to de-allocate said portion of system memory by invoking a balloon code device driver of said operating system to request



memory, wherein said balloon code device driver requests said operating system to allocate memory to it; and reclaiming by a hypervisor the portion of system memory released by the guest requested by said balloon code device driver and, responsive thereto because this would have helped with achieving predictable performances such as having a VM from which memory has been reclaimed to perform as if it had been configured with less memory (Section 3.2: Ballooning; paragraph 1) as taught by Waldspurger.

9. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rawson, III (2004/0111596) in view of Waldspurger (Memory Resource Management in VMware ESX Server; VMware, Inc.; Palo Alto, CA).

As per claim 1, Rawson discloses a method of managing power in a data processing system [par. 0018], comprising: monitoring a system parameter indicative of power consumption [par. 0018]; responsive to determining that the parameter differs from a specified threshold [pars. 0018, 0028], reducing system memory power consumption [par. 0018].

However, Rawson may not explicitly disclose causing a guest of the system to release de-allocate a portion of system memory allocated by the guest by causing an operating system of the system to de-allocate said portion of system memory by invoking a balloon code device driver of said operating system to request memory,

wherein said balloon code device driver requests said operating system to allocate memory to it; and reclaiming by a hypervisor the portion of system memory released by the guest requested by said balloon code device driver and, responsive thereto.

Waldspurger discloses causing a guest of the system to release de-allocate a portion of system memory allocated by the guest by causing an operating system of the system to de-allocate said portion of system memory by invoking a balloon code device driver of said operating system to request memory, wherein said balloon code device driver requests said operating system to allocate memory to it [Abstract; Section 3.2: Ballooning, paragraph 2; Figs. 1-2]; and reclaiming by a hypervisor the portion of system memory released by the guest requested by said balloon code device driver and, responsive thereto, reducing system memory power consumption [Section 3.2: Ballooning; paragraph 3; Section 1: Introduction, paragraph 3; Figs. 1-2] to achieve predictable performances such as having a VM from which memory has been reclaimed to perform as if it had been configured with less memory (Section 3.2: Ballooning; paragraph 1).

Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to modify the system of Rawson to include causing a guest of the system to release de-allocate a portion of system memory allocated by the guest by causing an operating system of the system to de-allocate said portion of system memory by invoking a balloon code device driver of said operating system to request memory, wherein said balloon code device driver requests said operating system to allocate memory to it; and reclaiming by a hypervisor the portion of system memory

released by the guest requested by said balloon code device driver and, responsive thereto because this would have helped with achieving predictable performances such as having a VM from which memory has been reclaimed to perform as if it had been configured with less memory (Section 3.2: Ballooning; paragraph 1) as taught by Waldspurger.

### ***Conclusion***

10. When responding to the office action, Applicant is advised to clearly point out the patentable novelty that he or she thinks the claims present in view of the state of the art disclosed by references cited or the objections made. He or she must also show how the amendments avoid such references or objections. See 37 C.F.R. 1.111(c).

11. When responding to the Office action, Applicant is advised to clearly point out where support, with reference to page, line numbers, and figures, is found for any amendment made to the claims.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mardochee Chery whose telephone number is (571) 272-4246. The examiner can normally be reached on 8:30A-5:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung Sough can be reached on (571) 272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hyung S SOUGH/  
Supervisory Patent Examiner, Art Unit 2188  
05/12/08

May 9, 2008

Mardochee Chery  
Examiner  
AU: 2188